

ABSTRACT

A fuel cell based system for the generation of electrical energy employs a drive unit that includes at least two electric motors sharing a common rotor which is mechanically coupled to drive a compressor to provide oxidant and/or fuel to a fuel cell. An electrical storage device such as a battery produces a voltage in at least a low voltage one of the electric motors to startup the system, and the fuel cell supplies a voltage to a high voltage one of the electric motors to drive the compressor, one or more loads such as a traction motor, and/or recharge the electrical storage device during standard operation.

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